

“It was really no small comfort to be able to get specimens of this beautiful bird without betraying their confidence by shooting them from the schooner. Small-brained as they are, they are gifted with an extraordinary amount of inquisitiveness, particularly in the early morning. As we bowl along before the flashing trade-wind, we hear a few harsh screams, and up come a pair of ‘boseus’ with their bright scarlet tail-feathers glowing in the morning sun. They make two or three sweeps around us, evidently comparing notes, and then away into the deep blue, on their own private affairs. They fish generally like the tern, to whom I suspect they are cousins german; but they have a way sometimes of hovering perpendicularly, with the bill pressed against the breast, that I have never observed but in one other bird, the black-and-white kingfisher of the Nile. When the ‘bosen’ has sighted his prey in this position, he turns over in the deftest manner, and goes down straight as a gannet, up to his neck, no further, and remounts for a fresh hover. I have never had the good fortune to see the white-tailed phaeton fishing, often as I have looked for him; indeed I have rarely met him out at sea at all. The finest I have seen were hanging about the high cliffs of the Society Islands; and I do not exaggerate when I state that I have seen more than one with a glorious waving white tail-feather, two good feet long, though the bird itself was not much larger than a black-headed gull. What they do with their tails when they feed passed my comprehension.

“Not only did we find full-grown tropic birds, but we found their eggs and young,—the former about the size of a hen’s egg, prettily splashed with reddish brown, laid on the bare sand, under a bush; the latter really handsome creatures, about the size of a herring-gull, beautifully marked with black and white (like a falcon). The bill at this stage of their existence is black, not red. When you find your young friend under a bush, he is ensconced in a small basin of coral-dust, without any nest at all, and his surroundings show him to be a cleanly thing. When you come upon him suddenly, he squalls and croaks and wabbles about, and is as disconcerted as a warm city man when you try to drive a new idea into him unconnected with money. But he sticks stoutly to his dusty cradle, and never attempts to escape, saying plainly enough, ‘My mother told me to stop here till she brought me my supper; and here I am going to stay.’”—*South-Sea Bubbles*, p. 143.

Fish-nest in the Seaweed of the Sargasso-Sea. Extracts from a letter from Prof. AGASSIZ to Prof. PEIRCE, Superintendent, United States Coast Survey, dated ‘Hassler’ Expedition, St. Thomas, December 15, 1871.

* * * * The most interesting discovery of the voyage thus far, is the finding of a nest built by a fish, floating on the broad ocean with its live freight. On the 13th of the month, Mr. Mansfield, one of the officers of the ‘Hassler,’ brought me a ball of gulf-weed which he had just picked up, and which excited my curiosity to the utmost.

It was a round mass of sargassum, about the size of two fists, rolled up together. The whole consisted, to all appearance, of nothing but gulf-weed, the branches and leaves of which were, however, evidently knit together, and not merely balled into a roundish mass; for though some of the leaves and branches hung loose from the rest, it became at once visible that the bulk of the ball was held together by threads trending in every direction among the seaweed, as if a couple of handfuls of branches of sargassum had been rolled up together with elastic threads trending in every direction. Put back into a large bowl of water, it became apparent that this mass of seaweed was a nest, the central part of which was more closely bound up together in the form of a ball, with several loose branches extending in various directions, by which the whole was kept floating.

A more careful examination very soon revealed the fact that the elastic threads which held the gulf-weed together were beaded at intervals, sometimes two or three beads being close together, or a bunch of them hanging from the same cluster of threads, or they were, more rarely, scattered at a greater distance one from the other. Nowhere was there much regularity observable in the distribution of the beads; and they were found scattered throughout the whole ball of seaweeds pretty uniformly. The beads themselves were about the size of an ordinary pin's head. We had, no doubt, a nest before us of the most curious kind—full of eggs too—the eggs scattered throughout the mass of the nest, and not placed together in a cavity of the whole structure. What animal could have built this singular nest? was the next question. It did not take much time to ascertain the class of the animal kingdom to which it belongs. A common pocket-lens at once revealed two large eyes upon the side of the head, and a tail bent over the back of the body, as the embryo uniformly appears in ordinary fishes shortly before the period of hatching. The many empty egg-cases observed in the nest gave promise of an early opportunity of seeing some embryos freeing themselves from their envelope. Meanwhile a number of these eggs with live embryos were cut out of the nest and placed in separate glass jars to multiply the chances of preserving them, while the nest as a whole was secured in alcohol, as a memorial of our unexpected discovery. The next day I found two embryos in one of my glass jars; they occasionally moved in jerks, and then rested for a long while motionless upon the bottom of the jar. On the third day I had over a dozen of these young fishes in my rack, the oldest of which began to be more active, and promised to afford further opportunities for study.

* * * * But what kind of fish was this? About the time of hatching, the fins of this class of animals differ too much from those of the adult, and the general form exhibits too few peculiarities, to afford any clue to this problem. I could only suppose that it would probably prove to be one of the pelagic species of the Atlantic, and of these the most common are *Exocetus*, *Naucrates*, *Scopelus*, *Chironectes*, *Syngnathus*, *Monacanthus*, *Tetraodon*, and *Diodon*. Was there a way to come nearer to a correct solution of my doubts?

As I had in former years made a somewhat extensive study of the

pigment-cells of the skin in a variety of young fishes, I now resorted to this method to identify my embryos. Happily we had on board several pelagic fishes alive, which could afford means of comparison; but unfortunately the steamer was shaking too much and rolling too heavily for microscopic observation of even moderately high powers. Nothing, however, should be left untried; and the very first comparison I made secured the desired result. The pigment-cells of a young *Chironectes pictus* proved identical with those of our little embryos.

It thus stands as a well authenticated fact that the common pelagic *Chironectes* of the Atlantic (named *Chironectes pictus* by Cuvier) builds a nest for its eggs, in which the progeny is wrapped up with the materials of which the nest itself is composed; and as these materials are living gulf-weed, the fish-cradle, rocking upon the deep ocean, is carried along as an undying arbour, affording at the same time protection and afterward food for its living freight.

This marvellous story acquires additional interest if we now take into consideration what are the characteristic peculiarities of the *Chironectes*. As its name indicates, it has fins like hands; that is to say, the pectoral fins are supported by a kind of prolonged wrist-like appendages, and the rays of the ventrals are not unlike rude fingers. With these limbs these fishes have long been known to attach themselves to seaweed, and rather to walk than to swim in their natural element. But now that we have become acquainted with their mode of reproduction, it may fairly be asked if the most important use to which their peculiarly constructed fins are put is not probably in building their nest.—*Silliman's American Journal*, Feb. 1872.

Morphology of Carpellary Scales in Larix. By THOMAS MEEHAN.

The facts which I have from time to time contributed, verbally or in papers, to the Academy, in regard to longitudinal series of axillary buds and adnate and free leaves in Coniferous plants, will, I believe, explain something of the structure of the flowers of Coniferæ, which, if not quite distinct from any view before taken, will at least have reached the conclusion by an original line of argument.

I have shown that in the cases where there are longitudinal series of buds, one of the buds, and generally the upper supraaxillary one, is the largest. So far as this longitudinal series of buds is concerned, I find by extensive observation that there are very few of our American trees or shrubs which do not produce them under some circumstances, although they are more generally apparent in some than in others. In many cases they do not break quite through the cortical layer, but continue to grow from year to year, just as the wood grows, always remaining just under the outer bark. It is from these concealed but living buds that the flowers of the *Cercis*, or the spines of *Gleditschia*, will often appear from trunks many years old. In *Magnolia* and *Liriodendron* these concealed buds are easily detected by a thin shave of the outer bark with a sharp knife. In very vigorous shoots of the latter, a series of two (one supraaxillary) is not rarely found prominently above